

ABSTRACT OF THE DISCLOSURE

MULTIPHASE CLOCK RECOVERY USING D-TYPE PHASE DETECTOR

5 A method of extracting a clock signal from a data
stream, by generating a plurality of multiphase clock
signals, selecting one of the multiphase signals based on
synchronization states identifying which of the multiphase
clock signals is most closely aligned with the data stream,
and sampling the data stream using the selected multiphase
signal to produce a retimed data signal. The multiphase
clock signals may be subharmonics of the data stream. The
selecting step may include the determination of whether the
multiphase clock signals are either early or late with
respect to the data stream, particularly using D-type flip-
flops. The synchronization states are used to define which
of the rising edges of the multiphase clock signals is most
closely aligned with an edge of the data stream. A
multiphase voltage-controlled oscillator may be used to
provide the multiphase clock signals. An error signal is
created using the multiphase clock signals and the data
stream which is applied to a charge pump, and the multiphase
clock signals are corrected using a control voltage output
20 of the charge pump.